REMARKS/ARGUMENTS

The Applicants have carefully considered this Application in connection with the Examiner's Action and respectfully request reconsideration of this Application in view of the foregoing Amendment and the following remarks.

The Applicants originally submitted Claims 1-19 in the present Application. The Applicants cancel Claims 2, 7, 9, and 14 without prejudice or disclaimer, and have previously added Claims 20-22. In the present Amendment, independent Claims 1, 8, 15, 20, and 22 are amended. Support for the present Amendments can be found, among other places, in paragraphs [0025-0029] and [0034] of the present Application. Claims 1, 3-6, 8, 10-13 and 15-22 are presently pending.

I. Rejection of Claims 1, 3-6, 8, 10-13 and 15-22 under 35 U.S.C. §102

The Examiner has rejected Claims 1, 3-6, 8, 10-13 and 15-22 under 35 U.S.C. §102(b) as being anticipated by "Optimizing Probe Selection for Fault Localization" by Brodie *et al.* ("Brodie").

Claim 1 as currently amended is directed towards a system for monitoring link delays and faults in an IP network. The system comprises a monitoring station identifier that computes a set of monitoring stations in a plurality of network trees that covers links, *including at least one link that is not included in at least one of the network trees, at least one monitoring station also monitoring the at least one link,* in at least a portion of the network. Each of the monitoring stations monitors one network tree, wherein the set of monitoring stations is selected as a minimal set. The system further comprises a probe message identifier, coupled to the monitoring station identifier, that computes a set of probe messages to be transmitted by at least ones of the set of monitoring stations such that the

delays and faults in *specific links* spanning the set of monitoring stations, *including the at least one link,* [as defined above,] can be determined. (Emphasis added.)

Brodie is generally directed to finding the smallest probe subset that can diagnose all the problems ... The goal is to find the smallest probe subset that can uniquely diagnose a failure in any *node*. (*See* Brodie, Sections 2.1-2.2.; emphasis added.)

Regarding Claim1, the Examiner contends:

> Brodie teaches placing probe stations so as to create a balance in costs between probe station and probes (1. Introduction, paragraph 3 – "*To use probes, probing stations ... for probing practitioners.*") However, Brodie also clearing teaches wherein a single probe station can be selected (3.1 Determining the Initial Probe set, paragraph 3 – *"This creates a candidate sets of .... a probe to every node"* and 4.2 Results, paragraph 3 – *"Although it is sufficient... minimal probe set size decreases"*.) Thus, this must be the minimal set of probe stations. Therefore, Brodie clearly teaches wherein the set of monitoring stations is selected as a minimal set. (*See* Examiner's Action, pages 6-7.)

The Applicants respectfully state that Claim 1 as currently amended now comprises a monitoring station identifier that computes a set of monitoring stations in a plurality of network trees that covers links, *including at least one link that is not included in at least one of the network trees*, in at least a portion of the network, wherein the set of monitoring stations is selected as a minimal set, *wherein each of the monitoring stations is associated with one network tree, at least one monitoring station also monitoring the at least one link,* as defined in the claim. (Emphasis added.) The Applicants respectfully state that the cited portions of Brodie do not disclose or suggest this claim language.

Brodie, 4.2 Results, paragraph 3, cited by the Examiner, states:

(iii) Number of Probe Stations:

> Although it is sufficient to have just one probe stations, the interactions between probe paths increase if probe stations are added, and so the minimal probe set size decreases. Figure 10 shows the average true minimum set size for one, two, and three ***randomly placed*** probe stations. This confirms that adding probe stations reduces the network load imposed by probing. However, additional probe stations can be quite expensive, and the process may soon reach a point of diminishing returns where the cost of an additional probe station exceeds the benefit gained by reducing the size of the probe set. (Emphasis added.)

However, in Claim 1 as currently amended, computes a set of monitoring stations in a plurality of network trees that covers links, *including at least one link that is not included in the network trees,* in at least a portion of the network, wherein the set of monitoring stations is selected as a minimal set, *at least one monitoring station also monitoring the at least one link* as defined in Claim 1.

Brodie, on the other hand, as discussed above, does not compute a set of monitoring stations, wherein at least monitoring station also monitors at least one *link* outside of a network tree, as claimed in independent Claim 1. Instead, Brodie has *randomly placed* probe stations. Furthermore, Brodie is directed to monitoring nodes, not links.

Indeed, according to Brodie:

> We begin by selecting from the n nodes a subset of k nodes as the probe station. ***In this work, we do not address the question of how to select the probe stations, since they usually cannot be chosen to optimize the probing strategy***; other considerations, such as gaining access to the machines, may be more important for choosing probe stations. (*See* Brodie, 3.1 Determining the Initial Probe Set; emphasis added)

Therefore, Brodie does not disclose or suggest monitoring stations in a plurality of network trees that covers links, *including at least one link that is not included in at least one of the network trees*. Brodie monitors nodes, not links. Brodie is generally directed to minimizing a number of probes. Brodie does not disclose, as claimed in Claim 1, computing a *minimal set* of monitoring

stations that covers *links*, including at least one link that is not included in at least one of the network trees.

Nor does Brodie disclose computing a set of probe messages to be transmitted by at least ones of said set of monitoring stations such that said delays and faults in specific links spanning said set of monitoring stations, *including the at least one link*, as defined in Claim 1, can be determined. The Examiner cites to Brodie, Introduction paragraph 4, as anticipating Claim 1 as previously amended. (See Examiner's Action, pages 2-3; "*As a first step towards this goal .... problems anywhere in the network.*")

Brodie, paragraph 4, states:

> To use probes, probing stations must first be selected at one or more locations in the network. Then the probes must be configured; it must be decided which network elements to target and which station each probe should originate from. Using probes imposes a cost, both because of the additional network load that their use entails and also because the probe results must be collected, stored and analyzed. Cost-effective diagnosis requires a small probe set, yet the probe set must also provide wide coverage, in order to locate problems anywhere in the network.

Although the Applicants respectfully state that they have been unable to find the first portion of the quotation cited by the Examiner ("As a first step towards this goal..."), regardless, the Applicants have reviewed the cited portions and have not found a disclosure of Claim 1, as currently amended, of a probe message identifier, coupled to said monitoring station identifier, that computes a set of probe messages to be transmitted by at least ones of the set of monitoring stations such that said delays and faults in specific links spanning the set of monitoring stations, *including the at least one link,* as defined in Claim 1, can be determined. The above-cited portion of Brodie does not disclose, among other things, *the at least one link that is not included in at least one of the network*

trees. Nor should this lack of a disclosure by Brodie of Claim 1 as currently amended be surprising. In Brodie, a single probing station is assumed to be able to monitor all of the requested *nodes*. For Example, see Figure 2 of Brodie, wherein node N_1 is an originating node which depicts a network and dependency matrix of other nodes.

However, the present Application states: "A benefit of path oriented tools is that they do not require special monitoring agents to be run at *each node*. However, a node with such a path oriented monitoring tool, termed a monitoring station is able to measure latencies and monitor faults for only a limited set of *links* in the nodes routing tree (*e.g.*, shortest path tree.)" (*See* Application, paragraph [0004].) This is unlike Brodie, which is directed towards monitoring nodes. In some embodiments of Claim 1, however, a single station may not be sufficient to monitor links of a given network. Instead, Claim 1 is directed to multiple monitoring stations that monitor network trees, at least one monitoring station also monitoring a *link* that is not included in at least one of the plurality of network trees, to monitor link delays and faults in an IP network.

Therefore, Brodie does not disclose each and every element of the claimed invention and as such, is not an anticipating reference. For similar reasons, Brodie does not disclose each and every element of independent Claim 8, Claim 15, Claim 20, and Claim 22. Because Claims 3-5, 10-12, 16-19 and 21 are variously dependent upon Claims 1, 8, 15, 20, Brodie also cannot be an anticipating reference for Claims 3-5, 10-12, 16-19 and 21. Accordingly, the Applicants respectfully request the Examiner to withdraw the §102 rejection with respect to these claims.

II. Conclusion

In view of the foregoing Amendment and remarks, the Applicants now see all of the Claims currently pending in this Application to be in condition for allowance and therefore earnestly solicit a Notice of Allowance for Claims 1, 3-6, 8, 10-13, and 15-22.

The Applicants request the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present Application. The Commissioner is hereby authorized to charge any fees, credits or overpayments to Deposit Account 08-2395

Respectfully submitted,

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